applied surface science

Contents

Volume 225 (2004) Nos. 1–4

Short communication

Precipitation of $HNbO_3$ at the Ti:$LiNbO_3$ surface
I.E. Kalabin, T.I. Grigorieva, L.D. Pokrovsky and V.V. Atuchin 1

The study of surface properties of ZrO_2
Q. Zhao, X. Wang and T. Cai 7

Nitridation effect on the oxidation of a austenitic stainless steel AISI 304 at 900°C
C. Issartel, H. Buscail, E. Caudron, R. Cueff, F. Riffard, S. El Messki, S. Perrier, P. Jacquet and M. Lambertin 14

Changes in surface composition of the Ti–6Al–4V implant alloy by cultured macrophage cells
H.-Y. Lin and J.D. Bumgardner 21

Influence of substrate temperature on titanium oxynitride thin films prepared by reactive sputtering
J.-M. Chappé, N. Martin, J.F. Pierson, G. Terwagne, J. Lintymer, J. Gavoille and J. Takadoum 29

Controlled microphase separated morphology of block polymer thin film and an approach to prepare inorganic nanoparticles
L. Huang, H. Yuan, D. Zhang, Z. Zhang, J. Guo and J. Ma 39

The surface of 1-euro coins studied by X-ray photoelectron spectroscopy
F. Gou, M.A. Gleeson, J. Villette, S.E.F. Kleyn and A.W. Kleyn 47

Etching characteristics of TiNi thin film by focused ion beam
D.Z. Xie, B.K.A. Ngoi, Y.Q. Fu, A.S. Ong and B.H. Lim 54

Effects of organic additives on electroplated soft magnetic CoFeCr films
F. Lallemand, D. Comte, L. Ricq, P. Renaux, J. Pagetti, C. Dieppedale and P. Gaud 59

Aluminothermic powder boriding of steel
N. Uzunov and R. Ivanov 72

Study on the reflection of EM wave from chiral material
G.-Q. Wang, P. Zhang, Z.-L. Liu and K.-L. Yao 78

XPS study of N_2 annealing effect on thermal Ta_2O_5 layers on Si
E. Atanassova, G. Tyuliev, A. Paskaleva, D. Spassov and K. Kostov 86

Corrosion of Si_3N_4–$MoSi_2$ ceramic composite in acid- and basic-aqueous environments: surface modification and properties degradation
F. Winterhalter, V. Medri, A. Ruffini and A. Bellosi 100

Density fluctuation in silica–PVA hybrid gels determined by small-angle X-ray scattering
Y. Xu, Z. Li, W. Fan, D. Wu, Y. Sun, L. Rong and B. Dong 116

Magnesium alloys laser (Nd:YAG) cladding and alloying with side injection of aluminium powder
S. Ignat, P. Sallamand, D. Grevey and M. Lambertin 124

Experiment combining ion-beam sputtering and quantitative ICP-OES analysis: angular distributions and total yield of titanium sputtered by 5 keV krypton ions
P.-G. Fournier, O. Varenne, J. Baudon, A. Nourtier and T.R. Govers 135

Surface modification of SiLK® by graft copolymerization with 4-vinylpyridine for reduction in copper diffusion
Y.Q. Zhu, E.T. Kang, K.G. Neoh, L. Chan, D.M.Y. Lai and A.C.H. Huan 144

Effect of the heat flux direction on electrical properties of $SrBi_2Nb_2O_9$ thin films crystallized using a microwave oven
J.S. Vasconcelos, N.S.L.S. Vasconcelos, S.M. Zanetti, E.R. Leite, J.A. Varela and E. Longo 156

Surface and interface state analysis of the TPD/Alq_3 using X-ray photoelectron spectroscopy (XPS) and atomic force microscopy (AFM)
H. Li, F. Zhang and S. Liu 162

Influence of magnetic field on structural defects in Si and GaAs
A.V. Brodovoy, V.A. Brodovoy and V.A. Skryshevsky 170

Investigation of inhibition effect of some amino acids against steel corrosion in HCl solution
H. Ashassi-Sorkhabi, M.R. Majidi and K. Seyyedi 176

(Contents continued on page XV)

0169-4332(20040330)225:1-4;1-2

(*Continued from outside back cover*)

The surface oxidation of selected polymers using an atmospheric pressure air dielectric barrier discharge. Part II
G. Borcia, C.A. Anderson and N.M.D. Brown 186

Improving the stability of alkaline earth sulfide-based phosphors
C. Guo, B. Chu and Q. Su 198

Poly(*o*-anisidine) coatings on copper: synthesis, characterization and evaluation of corrosion protection performance
S. Patil, S.R. Sainkar and P.P. Patil 204

Effects of deposition temperature on the properties of $Zn_{1-x}Mg_xO$ thin films
D.-K. Hwang, M.-C. Jeong and J.-M. Myoung 217

Surface modification of a microcellular porous solid: carbon foam
S.M. Mukhopadhyay, R.V. Pulikollu and A.K. Roy 223

Photoemission study of the oxidation and the post-annealing behaviors of a Pr-covered Si(1 0 0) surface
J.X. Wu, Z.M. Wang, F.Q. Li and M.S. Ma 229

High temperature ammonia treatment of activated carbon for enhancement of CO_2 adsorption
J. Przepiórski, M. Skrodzewicz and A.W. Morawski 235

Low-threshold field emission from transparent p-type conducting $CuAlO_2$ thin film prepared by dc sputtering
A.N. Banerjee and K.K. Chattopadhyay 243

Wet etching study of silica glass after CW CO_2 laser treatment
J. Zhao, J. Sullivan and T.D. Bennett 250

Low thermal budget surface preparation of Si and SiGe
A. Abbadie, J.M. Hartmann, P. Holliger, M.N. Séméria, P. Besson and P. Gentile 256

ESD thresholds for NaCl
F. Gołek 267

Role of surface instabilities in mixing and oxidation mechanisms of bilayered Y/Zr films at elevated temperature
L. Pranevicius, D. Milcius, L.L. Pranevicius, C. Templier, V. Sirvinskaite and R. Knizikevicius 272

Investigation of the quantum confinement effects in Ge dots by electrical measurements
X.Y. Ma, Sh.H. Huang, Y. Chen and F. Lu 281

Inhibition of copper corrosion by bis-(1-benzotriazolymethylene)-(2,5-thiadiazoly)-disulfide in chloride media
D.-q. Zhang, L.-x. Gao and G.-d. Zhou 287

Influence of target to substrate spacing on the properties of ITO thin films
A. Antony, M. Nisha, R. Manoj and M.K. Jayaraj 294

Surface-enhanced Raman scattering effect for copper oxygenous compounds array within the alumina template pores synthesized by ac deposition from Cu(II) acetate solution
A. Jagminas, G. Niaura, J. Kuzmarskytė and R. Butkienė 302

Correlation between the electrical and mechanical behaviours of a nanocontact with an alkanethiol monolayer
D. Alamarguy, O. Schneegans, S. Noël and L. Boyer 309

Relationship between barrier heights and ideality factors of H-terminated Pb/p-Si contacts with and without the interfacial oxide layer
M.E. Aydin, K. Akkiliç and T. Kiliçoğlu 318

Chemical modifications in femtosecond ultraviolet (248 nm) excimer laser radiation-processed polyimide
K.P. Adhi, R.L. Owings, T.A. Railkar, W.D. Brown and A.P. Malshe 324

A hybrid instrument combining electronic and photonic tunnelling for surface analysis
R. Péchou, F. Ajustron, G. Seine, R. Coratger, C. Maurel and J. Beauvillain 332

Ablation induced by femtosecond laser in sapphire
X. Li, T. Jia, D. Feng and Z. Xu 339

Contact angle measurements at the colemanite and realgar surfaces
S. Koca and M. Savas 347

Raman evidence of the formation of LT-$LiCoO_2$ thin layers on NiO in molten carbonate at 650°C
L. Mendoza, R. Baddour-Hadjean, M. Cassir and J.P. Pereira-Ramos 356

Surface modifications of TiN coating by the pulsed TEA CO_2 and KrCl laser
M.S. Trtica, B.M. Gaković, L.T. Petkovska, V.F. Tarasenko, A.V. Fedenev, E.I. Lipatov and M.A. Shulepov 362

Combinatorial masked deposition: simple method to control deposition flux and its spatial distribution
S. Noda, Y. Kajikawa and H. Komiyama 372

Change of surface morphology and field emission property of carbon nanotube films treated using a hydrogen plasma
K. Yu, Z. Zhu, Y. Zhang, Q. Li, W. Wang, L. Luo, X. Yu, H. Ma, Z. Li and T. Feng 380

Stabilization of porous silicon surface by thermal decomposition of acetylene
J. Salonen, M. Björkqvist, E. Laine and L. Niinistö 389

Spectroscopic and electrochemical characterization of the surface layers of chalcopyrite ($CuFeS_2$) reacted in acidic solutions
Y.L. Mikhlin, Y.V. Tomashevich, I.P. Asanov, A.V. Okotrub, V.A. Varnek and D.V. Vyalikh 395

Author Index I

Subject Index V